

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-178

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

In this edition:

- * AMSAT 2010 Space Symposium Adds Sunday FermiLab Supercollider Tour
- * ARISS-Built AIS Antenna Reports Good Performance On-Orbit
- * ARISSat-1 Assembly and Testing Making Progress
- * SO-67 SumbandilaSat is Back on the Air
- * IARU International Amateur Radio Satellite Forum at Colloquium
- * Satellite Shorts From All Over

SB SAT @ AMSAT \$ANS-178.01

AMSAT 2010 Space Symposium Adds Sunday FermiLab Supercollider Tour

AMSAT News Service Bulletin 178.01

>From AMSAT HQ SILVER SPRING, MD.

June 27, 2010

To All RADIO AMATEURS

BID: \$ANS-178.01

The 2010 AMSAT Space Symposium and Annual Meeting will be held on Friday, October 8 through Sunday, October 10. This year we have selected the Chicago/Elk Grove Holiday Inn which is near O'Hare Airport for the event.

At the conclusion of the Symposium activities you are invited to participate in a tour of the Tevatron at the Fermi National Accelerator Laboratory on Sunday. Part of the tour will include a tour of the multi-megawatt RF portions of the particle accelerator as well as a tour of the new Super Conducting RF Test Facility. We will be arranging car pools for travel to FermiLab and back to the hotel. The planned start time for the FermiLab tour will be 12 Noon.

The 2010 Symposium Committee has completed the room reservation and registration details for the event. The Hotel booking code for the Elk Grove Village Holiday Inn is AMS for the AMSAT convention. The \$79 per-night room rate will apply for those using this group code.

The direct web page link to the Elk Grove Village Holiday Inn is <http://tinyurl.com/22s788d> For people needing special accommodations please call the Hotel directly at (847) 437-6010, ask for Brad.

[ANS thanks the 2010 Symposium Committee for the above information]

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SB SAT @ AMSAT \$ANS-178.02

ARISS-Built AIS Antenna Reports Good Performance On-Orbit

AMSAT News Service Bulletin 178.02

>From AMSAT HQ SILVER SPRING, MD.

June 27, 2010

To All RADIO AMATEURS

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SpaceDaily.com reported this week that ESA's Columbus module maritime Automatic Identification System (AIS) aboard the International Space Station was switched on. The AIS antenna, mounted externally on the Columbus module, was fabricated by AMSAT and ARISS member Lou McFadin, W5DID and the US ARISS team. The team has also fabricated a nearly-identical twin amateur band antenna for ARISS. The ARISS antenna will be used when the Ericsson amateur radio gear is activated in early 2011.

ESA reported receiving more than 90,000 Class A AIS messages during a 14 hour test between 1900 GMT on 2 June and 0900 GMT on 3 June. This generated a global view of maritime traffic as the ISS orbit crosses all major shipping lanes.

AIS is currently a terrestrial VHF system with an average range of 40 nautical miles (74 km). This makes it useful within coastal zones and on a ship-to-ship basis but open ocean traffic remains largely untracked. The Columbus AIS Experiment (COLAIS) detected these signals from orbit. All international vessels, cargo ships above certain weights and passenger carriers of all sizes must carry 'Class A' AIS transponders, broadcasting continually updated identification and navigation data.

An ESA spokesman said, "We are currently testing the NORAIS receiver, built by the Norwegian Defense Research Establishment and Kongsberg Seatex. In three months' time the Station crew will switch it with a second receiver called LUXAIS, the work of Luxembourg companies Luxspace

and Emtronix. For the next two years we will go on swapping between these receivers."

With commissioning completed, the experiment is run remotely and the results are routed via the Columbus Control Centre in Oberpfaffenhofen, Germany to COLAIS teams.

ARISS-International says the cable for operating the Ericsson system in the Columbus Module is in final preparation at Kennedy Space Center for launch to the ISS. Installation is planned for early 2011. At that time the twin ARISS amateur radio antenna on the Columbus module and the second amateur radio station aboard the ISS will be activated.

See the full story at SpaceDaily.com <http://tinyurl.com/263rkj7>

[ANS thanks ARISS, SpaceDaily.com, and ESA for the above information]

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SB SAT @ AMSAT \$ANS-178.03

ARISSat-1 Assembly and Testing Making Progress

AMSAT News Service Bulletin 178.03

>From AMSAT HQ SILVER SPRING, MD.

June 27, 2010

To All RADIO AMATEURS
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Lou McFadin, W5DID reported that ARISSat-1 is currently undergoing assembly and testing procedures in Orlando, Florida. In preparation for delivery of the ARISSat-1 flight unit to Russia in July continuous operation testing of flight components was started and has gone well.

The next milestone includes completing thermal vacuum testing followed by vibration testing at NASA's Wallops Flight Facility in Virginia prior to shipping the flight version of ARISSat-1 to Russia for the ride up to the ISS on a supply mission.

The ARISSat-1 Guided Tour video produced at Dayton Hamvention 2010 and the latest photos and information can be viewed on-line at:
<http://arissat1.org/>

[ANS thanks ARISS for the above information]

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SB SAT @ AMSAT \$ANS-178.04
S0-67 SumbandilaSat is Back on the Air

AMSAT News Service Bulletin 178.04
>From AMSAT HQ SILVER SPRING, MD.
June 27, 2010
To All RADIO AMATEURS
BID: \$ANS-178.04

Jan-Albert Koekemoer, PrEng at Sun Space & Information Systems (Pty) Ltd. in Stellenbosch, South Africa announced this week, "After much delay we are now in a position to re-activate the SA-AMSAT payload schedules on a regular basis again!"

During the downtime Sun Space conducted several experiments in order to investigate possible alternatives for the "cut-off" problem experienced by many at the end of last year / beginning of this year.

The cut-off is caused by SW running on piggyback electronics that continues to gate the received audio on to the transmitter for about 3s after a specific ground transmission has ended, whereafter the received audio is cut off.

The SW then waits for the next ground transmission with a valid "transponder" tone embedded, before gating the audio onto the transmitter again.

So if a second transmission starts within the 3s "tail" period, it will be cut off when the 3s expires. Listen to this mp3 recording as an example: <http://tinyurl.com/38vvg3o>

Unfortunately the piggyback electronics does not have reprogramming functionality, so we are not able to change the SW. Sun Space did however manage to implement a mechanism on the satellite transponder (used by the piggyback) that should be of some assistance when using the payload: the PTT of the transmitter now STAYS ON for the duration of the payload activation (i.e. 15 min), regardless of a valid "transponder" tone received. Note that this does not get rid of the "cut-off"

problem, nor of the requirement to embed a valid tone when you want to use the payload - see detailed explanation below.

The following example depicts the ideal usage scenario of the payload:

1. As the satellite comes over the horizon, an unmodulated carrier ("quieting") will be received by all on UHF
2. Person A starts to transmit on VHF (with valid "transponding" tone embedded in the transmission) and the transmission is relayed on UHF
3. When Person A releases his/her PTT, the satellite will continue to transmit what it is receiving (usually this will be "noise") for a further 03s. Nobody should start to transmit during this time!
4. At the end of the 03s period, everybody will again hear the unmodulated carrier.
5. NB: only when this unmodulated carrier is heard should Person B start to transmit. Listen to this mp3 recording as an example of valid usage: <http://tinyurl.com/32rjbxm>

This will take some getting use to - at least the system has a built-in "punishment" mechanism for the impatient! Please refer to previous posts

on general voice quality optimization when using the SA-AMSAT payload on

S0-67.

Gladys Magagula at the Satellite Application Centre to obtain regular schedules from the regional coordinators as soon as possible. We will start off with day passes only, transmit on 2.5W and see how things go. Request for operation over your area should be sent to: saamsat@intekom.co.za by Mondays for possible inclusion in the schedule published on Thursday night/Friday morning cover the following week. It may not always be possible to accede to every request. The weekly schedule will be published at <http://www.amsatsa.org.za/>.

Uplink 145.875 MHz
Downlink 435.345 MHz

The Sumbandila team has experienced recent problems with the scheduling system. The schedules for the weekend onward were not uploaded to the satellite. They are working on the problem and will post a message as soon as they have uploaded the schedule.

[ANS thanks Jan-Albert Koekemoer, at Sun Space for the above information]

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SB SAT @ AMSAT \$ANS-178.05
IARU International Amateur Radio Satellite Forum at Colloquium

AMSAT News Service Bulletin 178.05
>From AMSAT HQ SILVER SPRING, MD.
June 27, 2010
To All RADIO AMATEURS
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The IARU International Amateur Radio Satellite Forum will this year be held in conjunction with the AMSAT-UK Colloquium which takes place in Guildford, England on the weekend of July 31 - Aug 1.

The forum, chaired by IARU Amateur Satellite Advisor Hans van de Groenendaal ZS6AKV, takes place on the Sunday morning.

On the Agenda is a report back on the activities of the IARU Satellite Adviser and his Advisory Panel.

There will be a brief presentation covering the ITU notification requirements for satellites operating in the amateur service and the requirement to be able disable transmissions should the signals interfere with other users of the radio spectrum.

The forum is open to all delegates at the colloquium.

Colloquium Info: <http://www.uk.amsat.org/colloquium/>

[ANS thanks Trevor M5AKA for the above information]

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SB SAT @ AMSAT \$ANS-178.05
Satellite Shorts From All Over

AMSAT News Service Bulletin 178.05
>From AMSAT HQ SILVER SPRING, MD.
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- + SpaceWeather.com advises the International Space Station (ISS) is putting on a remarkable show. For the next few days, the behemoth spacecraft will be in constant sunlight as its orbit lines up with Earth's day-night terminator. This means it will shine brightly in the night sky every single time it passes overhead. Some observers can see it 3, 4, even 5 times a night! Full story at <http://www.spaceweather.com>
- + Piraj0, PS8RF says that a new distance record may be accomplished soon via A0-7. Joe, K3SZH copied Luciano, PY5LF but the two stations could not complete a two-way contact during that orbit. The distance between K3SZH and PY5LF is 7839 KM.
- + Central States VHF Society Conference, St. Louis, MO July 22nd to 24th. <http://www.csvhfs.org/conference/index.html>
- + Congratulations to Zeljko 9A2EY on being awarded VUCC Satellite Award #197.
- + The 2010 CubeSat Summer Workshop takes place in Logan, Utah on August 7th-8th - the weekend before the Smallsat conference. The last day to register for the workshop is Friday, July 23rd. If you wish to present at the workshop the last day to submit an abstract is Friday, July 23rd. For more information regarding deadlines and registration information please visit the cubesat website at <http://www.cubesat.org/index.php/workshops/upcoming-workshops/> or the smallsat website at <http://www.smallsat.org/>
- + Listen for Patrick WD9EWK/VA7EWK mobile/portable satellite operation between July 3 - July 11 on Vancouver Island west of the British Columbia "Lower Mainland". Plans include spending most of Sunday, July 4 operating from somewhere on the C060/C070 grid boundary on Vancouver Island. Patrick's gear includes an all-mode satellite station (two FT-817s) and an Elk Antenna. He will try to work as many passes as possible on the linear and FM satellites. Patrick has posted information at: <http://july2010.wd9ewk.net/>

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And with that, please keep in mind the young ham who got his first job working in an orange juice factory but he got canned because he couldn't concentrate. The young ham's next career was as a lumberjack but he couldn't hack it so he got the axe. The poor fellow also found that his subsequent job at the muffler factory was exhausting.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM